G. Option Switch Settings

Tables 1-1 and 1-2 detail game options and their settings. Options are preset at the factory and shown by the $ symbols. However, you may change the settings to suit your individual needs.

Table 1-1 Game Price and Bonus Option Settings

The 8-toggle switch at location 9N is accessible when the Dig Dug™ game PCB is mounted in place. To change switch settings, set the self-test switch to *on*. Verify the changes on the self-test screen. Then turn the self-test switch to *off*.

A "coin" is defined as 25¢, 1DM or 1Fr. If you have a 2DM/1DM or 2Fr/1Fr coin door with two coin counters, set switch 8 at PCB location 9P to *off*. Then different denominations are counted on the two coin counters.

Settings of 8-Toggle Switch on Dig Dug PCB *(at 9N)*								Option	
8	7	6	5	4	3	2	1		
On	On							1 Dig Dug life	
On	Off							2 Dig Dug lives	
Off	On							3 Dig Dug lives $	
Off	Off							5 Dig Dug lives	
								Bonus lives awarded at the following point values:	
								With 1, 2 or 3 Dig Dug lives	With 5 Dig Dug lives
		On	On	On				No Bonus	No Bonus
		Off	On	On				First at 10,000, second at 40,000, and every 40,000 $	First at 20,000, second at 60,000, and every 60,000
		On	Off	On				First at 10,000, second at 50,000, and every 50,000	First at 30,000, second at 80,000, and every 80,000
		Off	Off	On				First at 20,000, second at 60,000, and every 60,000	First at 20,000, second at 50,000
		On	On	Off				First at 20,000, second at 70,000, and every 70,000	First at 20,000, second at 60,000
		Off	On	Off				First at 10,000, second at 40,000	First at 30,000, second at 70,000
		On	Off	Off				First at 20,000, second at 60,000	First at 20,000
		Off	Off	Off				First at 10,000	First at 30,000
								Right coin mech—coin doors with 1 or 2 coin counters*	
					On	On	On	1 coin for 7 credits	
					Off	On	On	1 coin for 6 credits	
					On	Off	On	1 coin for 3 credits	
					Off	Off	On	1 coin for 2 credits	
					On	On	Off	1 coin for 1 credit $	
					Off	On	Off	2 coins for 3 credits	
					On	Off	Off	2 coins for 1 credit	
					Off	Off	Off	3 coins for 1 credit	

$ Manufacturer's suggested settings

** See Table 1-2 for left coin mechanism.*

Table 1-2 Game Difficulty, Price and Special Options

The table below contains the switch settings for options relating to game difficulty, price and special options. The switches are on the game PCB at location 9P, and are accessible when the PCB is mounted in place.

A special option allows for continuation of game play. If a player is at a more advanced round when his game ends, he has 16 seconds to begin the next game at the same round. Another special option allows you to freeze the game action.

Settings of 8-Toggle Switch on Dig Dug PCB *(at 9P)*								
8	7	6	5	4	3	2	1	Option
On								One coin counter $
Off								Two coin counters*
								Left coin mech—coin doors with 2 coin counters
	On	On						1 coin for 1 credit $
	Off	On						1 coin for 2 credits
	On	Off						2 coins for 1 credit
	Off	Off						2 coins for 3 credits
			Off					Normal game action $
			On					Freeze game action
				On				Attract Mode sound $
				Off				No Attract Mode sound
					On			Continuation of game play $
					Off			No continuation of game play
						On	On	A—Easy game difficulty
						Off	On	B—Medium game difficulty $
						On	Off	C—Hard game difficulty
						Off	Off	D—Expert game difficulty

$ Manufacturer's recommended settings

** Coin doors with different denominations and two coin counters.*

RAM FAILURE is indicated by the word RAM and a pair of alphanumeric characters displayed at the top of the screen. The following table lists the bad RAM chip and its location.

Screen Display	Bad RAM chip location on game PCB
RAM 0L	4K
RAM 0H	4K
RAM 1L	4K
RAM 1H	4K
RAM 2L	7R
RAM 2H	7P
RAM 3L	7L
RAM 3H	7K
RAM 4L	7N
RAM 4H	7M

ROM FAILURE is indicated by the word ROM and a number displayed at the top of the screen. The following table lists the bad ROM chip and its location.

Screen Display	Bad ROM chip location on game PCB
ROM 1	2C/D
ROM 2	2E
ROM 3	2B/C
ROM 4	2A
ROM 5	2P
ROM 6	2N
ROM 7	2K/L

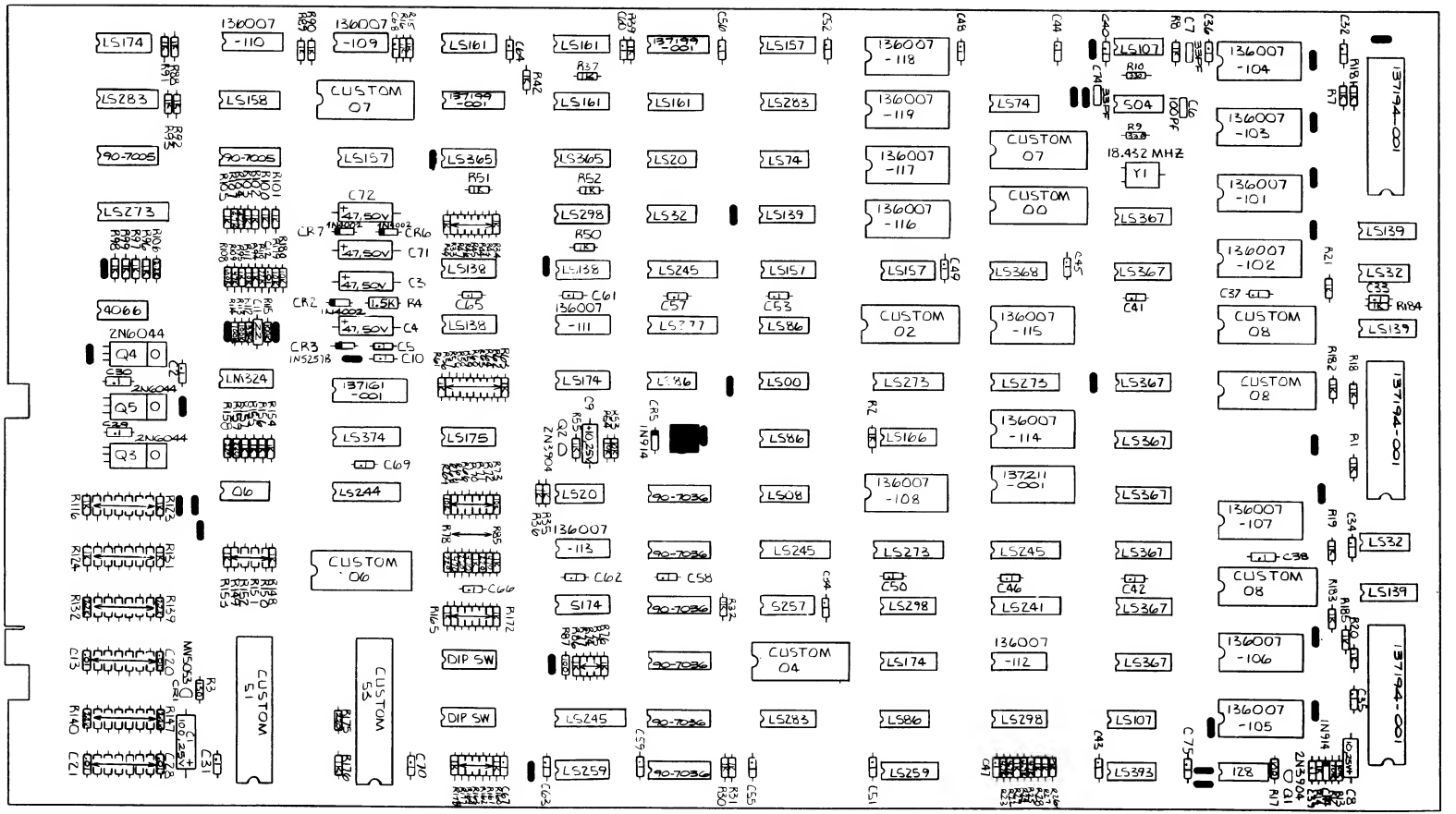

Figure 3-10 Dig Dug™ Game PCB Assembly

Figure 3-10 Dig Dug™ Game PCB Assembly, continued
Parts List

Part No.	*Description (Reference Designations and Locations in Bold)*
A038575-21	Dig Dug Game PCB Assembly
24-250106	10 μF 25V Aluminum Electrolytic Fixed Axial-Lead Capacitor **(C8, 9)**
24-250107	100 μF 25V Aluminum Electrolytic Fixed Axial-Lead Capacitor **(C1)**
24-500476	47 μF 50V Aluminum Electrolytic Fixed Axial-Lead Capacitor **(C3, 4, 71, 77)**
29-088	0.1 μF 50V Ceramic-Disc Axial-Lead Capacitor **(C2, 5, 10, 29-70, 75)**
31-1N4002	Type-1N4002 100V Switching Diode **(CR2, 6, 7)**
31-1N914	Type-1N914 75V Switching Diode **(CR4, 5)**
34-2N3904	Type-2N3904 NPN 60V 1W Transistor **(Q1, 2)**
34-2N6044	Type-2N6044 Darlington NPN Transistor **(Q3-5)**
37-4066	Type-4066 Quad Analog Switch Integrated Circuit **(12F)**
37-7406	Type-7406 Integrated Circuit **(11K)**
37-74LS00	Type-74LS00 Integrated Circuit **(6H)**
37-74LS08	Type-74LS08 Integrated Circuit **(6K)**
37-74LS20	Type-74LS20 Integrated Circuit **(7C, 8K)**
37-74LS32	Type-74LS32 Integrated Circuit **(7D, 1E, 1L)**
37-74LS74	Type-74LS74 Integrated Circuit **(4B, 6C)**
37-74LS86	Type-74LS86 Integrated Circuit **(6F, 7H, 6J, 5P)**
37-74LS139	Type-74LS139 Integrated Circuit **(1D, 6D, 1F, 1M)**
37-74LS157	Type-74LS157 Integrated Circuit **(6A, 10C, 5E, 6E)**
37-74LS161	Type-74LS161 Integrated Circuit **(8A, 9A, 7B, 8B)**
37-74LS166	Type-74LS166 Integrated Circuit **(5J)**
37-74LS174	Type-74LS174 Integrated Circuit **(12A, 5N, 8H)**
37-74LS175	Type-74LS175 Integrated Circuit **(9J)**
37-74LS241	Type-74LS241 Integrated Circuit **(4M)**
37-74LS244	Type-74LS244 Integrated Circuit **(10K)**
37-74LS245	Type-74LS245 Integrated Circuit **(7E, 4L, 6L, 8P)**
37-74LS259	Type-74LS259 Integrated Circuit **(5R, 8R)**
37-74LS273	Type-74LS273 Integrated Circuit **(12D, 4H, 5H, 5L)**
37-74LS367	Type-74LS367 Integrated Circuit **(3D, 3E, 3H, 3J, 3K, 3L)**
37-74LS374	Type-74LS374 Integrated Circuit **(10J)**
37-74LS377	Type-74LS377 Integrated Circuit **(7F)**
37-74LS393	Type-74LS393 Integrated Circuit **(3R)**
37-74S04	Type-74S04 Integrated Circuit **(3B)**
37-LM324	Type-LM324 Integrated Circuit **(11H)**
38-MV5053	Type-MV5053 Light-Emitting Diode **(CR1)**
66-118P1T	8-Station Single-Throw, Dual-Inline-Package Switch **(9N, 9P)**
72-6810S	#8 × ⅝-Inch Cross-Recessed Pan-Head Screw *(for mounting PCB to cabinet wall)*
78-24012	5-Inch Beaded Nylon Tie Wrap
79-42C22	22-Contact Medium-Insertion-Force Integrated Circuit Socket **(10H)**
79-42C24	24-Contact Medium-Insertion-Force Integrated Circuit Socket **(2A, 5A, 5B, 2B/C, 5C, 2C/D, 5D, 2E, 4F, 4J, 4K, 5K, 2K/L, 2N, 2P)**
79-42C28	28-Contact Medium-Insertion-Force Integrated Circuit Socket **(10B, 4C, 4D, 2F, 5F, 2H, 2L/M, 10L/M, 6N)**
79-42C40	40-Contact Medium-Insertion-Force Integrated Circuit Socket **(1B/C, 1J, 1N/P)**
79-42C42	42-Contact Medium-Insertion-Force Integrated Circuit Socket **(10P, 11P)**
81-4302	Nylon Snap-In Fastener

[Continued on next page]

Figure 3-10 Dig Dug™ Game PCB Assembly, continued
Parts List

Part No.	*Description (Reference Designations and Locations in Bold)*
90-7005	Random-Access Memory **(11C, 12C)**
90-7036	Random-Access Memory **(7K, 7L, 7M, 7N, 7P, 7R)**
110000-101	100 Ohm, ±5%, ¼W Resistor **(R17, 87)**
110000-102	1K Ohm, ±5%, ¼W Resistor **(R1, 2, 7, 8, 14-16, 18-21, 26-37, 39, 42-47, 49-52, 55-65, 74-77, 82, 85, 86, 88-103, 105, 116-131, 148-157, 160-172, 176-178, 181-185)**
110000-103	10K Ohm, ±5%, ¼W Resistor **(R12, 13, 53, 54, 66-73, 111, 179, 180)**
110000-104	100K Ohm, ±5%, ¼W Resistor **(R108, 113-115)**
110000-151	150 Ohm, ±5%, ¼W Resistor **(R3)**
110000-221	220 Ohm, ±5%, ¼W Resistor **(R78, 80, 83, 158, 159, 175)**
110000-222	2.2K Ohm, ±5%, ¼W Resistor **(R106, 132-147)**
110000-223	22K Ohm, ±5%, ¼W Resistor **(R110)**
110000-331	330 Ohm, ±5%, ¼W Resistor **(R9, 10)**
110000-333	33K Ohm, ±5%, ¼W Resistor **(R112)**
110000-471	470 Ohm, ±5%, ¼W Resistor **(R79, 81, 84, 104)**
110000-472	4.7K Ohm, ±5%, ¼W Resistor **(R22-25, 107)**
110000-473	47K Ohm, ±5%, ¼W Resistor **(R109)**
110001-152	1.5K Ohm, ±5%, ½W Resistor **(R4)**
122005-103	0.01 μF, ±10%, 25V Minimum Ceramic-Disc Axial-Lead Capacitor **(C12-28)**
122008-224	0.22 μF 25V Minimum Ceramic-Disc Axial-Lead Capacitor **(C11)**
128002-101	100 pF 100V Epoxy-Dipped Radial-Lead Mica Capacitor **(C6)**
128002-330	33 pF 100V Epoxy-Dipped Radial-Lead Mica Capacitor **(C7, 74)**
131003-001	Type-1N5257B 6.2V 1W Zener Diode **(CR3)**
136007-101	Programmable Read-Only Memory, ROM0 **(2C/D)**
136007-102	Programmable Read-Only Memory, ROM1 **(2E)**
136007-103	Programmable Read-Only Memory, ROM2 **(2B/C)**
136007-104	Programmable Read-Only Memory, ROM3 **(2A)**
136007-105	Programmable Read-Only Memory, ROM4 **(2P)**
136007-106	Programmable Read-Only Memory, ROM5 **(2N)**
136007-107	Programmable Read-Only Memory, ROM6 **(2K/L)**
136007-108	Programmable Read-Only Memory **(5K)**
136007-109	Programmable Read-Only Memory **(10A)**
136007-110	Programmable Read-Only Memory **(11A)**
136007-111	Programmable Read-Only Memory **(8F)**
136007-112	Programmable Read-Only Memory **(4N)**
136007-113	Programmable Read-Only Memory **(8L)**
136007-114	Programmable Read-Only Memory **(4J)**
136007-115	Programmable Read-Only Memory **(4F)**
136007-116	Programmable Read-Only Memory **(5D)**
136007-117	Programmable Read-Only Memory **(5C)**
136007-118	Programmable Read-Only Memory **(5A)**
136007-119	Programmable Read-Only Memory **(5B)**
137161-001	Electrically Alterable Read-Only Memory **(10H)**
137168-001	Type-74LS368 Integrated Circuit **(4E)**
137169-001	Type-74LS107 Integrated Circuit **(3A, 3P)**
137177-001	Type-74LS138 Integrated Circuit **(8E, 9E, 9F)**

[Continued on next page]

Figure 3-10 Dig Dug™ Game PCB Assembly, continued
Parts List

Part No.	*Description (Reference Designations and Locations in Bold)*
137186-001	Multi-CPU Bus Controller Custom Chip 08 **(2F, 2H, 2L/M)**
137187-001	Coin and I/O Controller Custom Chip 51 **(11P)**
137188-001	Steering Controller Custom Chip 53 **(10P)**
137189-001	Video Ram Addresser Custom Chip 00 **(4D)**
137190-001	Universal Shift Register Custom Chip 02 **(5F)**
137191-001	Motion Object Controller Custom Chip 04 **(6N)**
137192-001	Controller Custom Chip 06 **(10L/M)**
137193-001	Sync Generator Custom Chip 07 **(10B, 4C)**
137194-001	4.0 MHz Z80A Central Processing Unit **(1B/C, 1J, 1N/P)**
137199-001	Random-Access Memory **(7A, 9B)**
137200-001	Type-74LS365 Integrated Circuit **(8C, 9C)**
137201-001	Type-74LS298 Integrated Circuit **(8D, 5M, 4P)**
137202-001	Type-74128 Integrated Circuit **(2R)**
137203-001	Type-74LS158 Integrated Circuit **(11B)**
137204-001	Type-74LS283 Integrated Circuit **(6B, 12B, 6P)**
137209-001	Type-74S174 Integrated Circuit **(8M)**
137211-001	Static Random-Access Memory **(4K)**
137217-001	Type-74S257 Integrated Circuit **(6M)**
144000-002	18.432 MHz Crystal **(Y1)**
175004-706	#6 Spacer for Mounting Printed Circuit Board
179051-002	Test Point *Acceptable substitute is part no. 020670-01*